## UNITED STATES DEPARTMENT of the INTERIOR

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FISH AND WILDLIFE SERVICE Bureau of Commercial Fisheries Guinan - 343-5634

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BALLOONS MAY REPLACE OTHER AIRCRAFT IN SPOTTING FISH

Most people know that "flying fish" leap rather than fly, but it may come as a surprise to learn that men are going 500 feet aloft seeking tuna, a fish never known to leave the water unless caught.

The Department of the Interior's Bureau of Commercial Fisheries recently contracted with professional balloonists to join biologists in testing the feasibility of using balloons to help spot schooling fish off the Pacific Coast.

Instead of perching atop a 60 foot mast or "crow's nest," the tuna boat lookout would scan a much larger area from a tiny gondola suspended from an inflated bag filled with hot air. According to navigational charts, the horizon is a little more than 10 statute miles from a man 60 feet above the surface. At 500 feet the horizon is nearly 30 miles away.

A dacron balloon, 52 feet in diameter is being used to determine if such a bag can be inflated, raised and recovered aboard a small vessel. The initial tests took place from a 110 foot converted wartime subchaser, <u>Yagui Queen</u>, chartered by the Bureau of Commercial Fisheries.

Two professional balloonists are indoctrinating biologists from the Bureau's La Jolla Tuna Resources Laboratory, in techniques of inflation, soaring and recovery. The instructors say that sitting at 500 feet in a tethered balloon is safer than driving in modern traffic.

The worst that could happen, they say, is that the hot air inside the big bag would cool and the balloon would descend slowly to the sea. The gondola is equipped to float and observers have life jackets.

In normal operation the balloon is brought down by a cable attached to a winch on the ship's deck.

The balloon is inflated with air heated by a propane burner, and once aloft balloonists can maintain the lifting power by reheating the air using a burner attached to the top of the gondola. Propane tanks in the ship carry spare fuel.

A number of tuna boats on the West Coast carried helicopters during the past few years, but they have not been satisfactory. The biggest trouble, say veteran boat owners, is the difficulty of maintaining the "choppers" at sea.

Other boats have tried small seaplanes, but these too have been mostly eliminated. Recovering the planes in rough weather proved to be hazardous and difficult.

Presently many tuna boats on the West Coast hire free lance pilots, but small planes do not have the range for working far at sea.

Fishery biologist Roger Green of the La Jolla Fishery-Oceanography Center says the next step in the balloon project is to design a balloon with aerodynamic qualities which can be towed by a tuna boat without hindering its speed.

Other fishery experts are looking forward to an even more sophisticated approach to sighting tuna. They are working on plans to equip the aerial platforms with television equipment completely controlled from the towing vessel.

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